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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/633,597

08/05/2003

Tsutomu Nakashima

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EXAMINER

BLACKMAN, ROCHELLE ANN J

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/633,597	<b>Applicant(s)</b> NAKASHIMA ET AL.	
	<b>Examiner</b> Rochelle Blackman	<b>Art Unit</b> 2851	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 24 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 21-28 have been considered but are moot in view of the new ground(s) of rejection.

### ***Specification***

The objection, "on pg. 13, lines 1-9 should be omitted" regarding the disclosure, was inadvertently recited in the last Office action. The objection is hereby withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 21, 22, and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu et al. (U.S. Patent No. 6,511,183).

Shimizu discloses a projection type image display apparatus (FIGS. 7 or 11), comprising: a light source (502 or 402); an illumination optical system (510 or 410); a reflection image display device (580 or 440R, G, B); a projection lens (590 or 452); a

Art Unit: 2851

reflection polarizing plate (574 or 474) which functions as polarizer and analyzer for said reflection image display device by diffraction; and an astigmatism corrector (526 or 426) which is located between said reflection polarizing plate and said projection lens in a light path and corrects astigmatism which occurs with said reflection polarizing plate; wherein an image light reflected by said reflection image display device is irradiated on a working plane side of said reflection polarizing plate, and then reaches said projection lens after reflecting on said reflection polarizing plate (see "reflection image display device" 580 or 490R, G, B, "reflection polarizing plate" 574 or 474, and "projection lens" 590 or 452 in FIGS. 7 or 11); further comprising at least one of: an auxiliary polarizer (514, 566 - as referenced in FIG. 7, or 414, 468) which is located between said light source and said reflection polarizing plate in the light path; and an auxiliary analyzer (593 or 454) which functions as an analyzer located between said reflection polarizing plate and said projection lens in said light path; wherein a reflection axis of said reflection polarizing plate is adjusted around a working plane of said reflection polarizing plate (see "reflection polarizing plate" 574 or 474 and function thereof in FIG. 6 and col. 31, line 50 to col. 32, line 6 or col. 34, lines 44-65); wherein at least one of an absorption or a reflection axis of said auxiliary polarizer and an absorption axis of said auxiliary analyzer is rotated around an optical axis (see "auxiliary polarizer" 514 and col. 27, line 46 to col. 28, line 10, "auxiliary polarizer" 566 and col. 31, lines 46-49 and/ or "auxiliary analyzer" 593 and col. 33, lines 27-30 or "auxiliary analyzer" 454 and col. 35, line 66 to col. 36, line 3); wherein at least one of an absorption or a reflection axis of said auxiliary polarizer and an absorption axis of said auxiliary analyzer is rotated

Art Unit: 2851

around an optical axis in a way to decrease an angle difference from a reflection axis of said reflection polarizing plate, by a second predetermined angle based on a characteristic of said reflection image display device (also "auxiliary polarizer" 514 and col. 27, line 46 to col. 28, line 10, "auxiliary polarizer" 566 and col. 31, lines 46-49 and/or "auxiliary analyzer" 593 and col. 33, lines 27-30 or "auxiliary analyzer" 454 and col. 35, line 66 to col. 36, line 3).

2. Claims 21, 22, and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Stahl et al. (U.S. Patent No. 6,661,475).

Stahl discloses a projection type image display apparatus (FIGS. 1 and 2), comprising: a light source (14); an illumination optical system (16,20); a reflection image display device (26<sub>1</sub>, 26<sub>2</sub>, 26<sub>3</sub>); a projection lens (27); a reflection polarizing plate (40) which functions as polarizer and analyzer for said reflection image display device by diffraction; and an astigmatism corrector (48 – see col. 6, lines 29-34) which is located between said reflection polarizing plate and said projection lens in a light path and corrects astigmatism which occurs with said reflection polarizing plate; wherein an image light reflected by said reflection image display device is irradiated on a working plane side of said reflection polarizing plate, and then reaches said projection lens after reflecting on said reflection polarizing plate (see "reflection image display device" 26<sub>1</sub>, 26<sub>2</sub>, 26<sub>3</sub>, "reflection polarizing plate" 40, and "projection lens" 27 in FIGS. 1 and 2); further comprising at least one of: an auxiliary polarizer (22) which is located between said light source and said reflection polarizing plate in the light path; and an auxiliary analyzer (60) which functions as an analyzer located between said reflection polarizing

Art Unit: 2851

plate and said projection lens in said light path; wherein a reflection axis of said reflection polarizing plate is adjusted around a working plane of said reflection polarizing plate (see "reflection polarizing plate" 40 in FIGS. 1 and 2); wherein at least one of an absorption or a reflection axis of said auxiliary polarizer and an absorption axis of said auxiliary analyzer is rotated around an optical axis (see "auxiliary polarizer" 22 and col. 5, lines 56-67 or "auxiliary analyzer" 60 and col. 7, lines 47-59); wherein at least one of an absorption or a reflection axis of said auxiliary polarizer and an absorption axis of said auxiliary analyzer is rotated around an optical axis in a way to decrease an angle difference from a reflection axis of said reflection polarizing plate, by a second predetermined angle based on a characteristic of said reflection image display device (see "auxiliary polarizer" 22 and col. 5, lines 56-67 or "auxiliary analyzer" 60 and col. 7, lines 47-59).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (U.S. Patent No. 6,511,183) in view of Ishii (U.S. Patent No. 6,669,344).

Art Unit: 2851

Shimizu disclose the claimed invention including a dichroic mirror group (532, 538 of FIG. 8) which separates the light from said light source into red light, green light and blue light; and wherein said reflection image display device (440R, G, B of FIG. 11)...comprises three pieces: an object (440R) for the red light, an object (440G) for the green light, and an object (44B) for the blue light, respectively. Shimizu also discloses a color dividing/combining prism assembly 436 and a polarizing-beamsplitter/half-wave plate assembly 514. However, Shimizu does not disclose "a cross dichroic prism" which combines red light, green light and blue light from said reflection image display device; "said reflection polarizing plate" comprising "three pieces: an object for the read light, an object for the green light, and an object for the blue light"; and "half-wave plates located between said reflection image display device for red light and said cross dichroic prism, and between said reflection image display device for blue light and said cross dichroic prism".

Ishii discloses a cross dichroic prism (109) which combines red light, green light and blue light from a reflection image display device (106R, G, B); a reflection polarizing plate (104Rp, Gp, Bp) comprising three pieces: an object (104Rp) for the red light, an object (104Gp) for the green light, and an object (104Bp) for the blue light; and half-wave plates (105R, B) located between said reflection image display device for red light and said cross dichroic prism, and between said reflection image display device for blue light and said cross dichroic prism.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the "projection type image display apparatus" of the

Art Unit: 2851

Shimizu reference with a "cross dichroic prism" and "half wave plates located between said reflection image display device for red light and said cross dichroic prism, and between said reflection image display device for blue light and said cross dichroic prism", as taught by Ishii in order to provide a "projection type image display apparatus" that is capable of reducing ununiformity in color of a projected image (see col. 2, lines 1-7).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



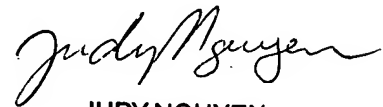
Art Unit: 2851

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RB



JUDY NGUYEN  
PRIMARY EXAMINER